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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/494,211	01/25/2000	Il-Ki Woo	003364.P035	3154

7590

08/18/2004

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EXAMINER

DOVE, TRACY MAE

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 08/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action	Application No. 09/494,211	Applicant(s) WOO ET AL.	
	Examiner Tracy Dove	Art Unit 1745	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 19 July 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
(a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ they raise the issue of new matter (see Note below);
(c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____.

3. ☒ Applicant's reply has overcome the following rejection(s): 35 U.S.C. 112, 2nd paragraph.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attached sheet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____.

Claim(s) objected to: _____.

Claim(s) rejected: 1-32.

Claim(s) withdrawn from consideration: _____.

8. ☐ The drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
10. ☐ Other: _____

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Attachment to Advisory Action in Response to After-Final Amendment of 7/19/04:35 U.S.C. 112, 1st

Applicant argues that boron and cobalt are listed as additive elements and therefore a copper alloy containing boron and cobalt and at least one other metal is clearly supported in the original specification even if the copper alloy is not specifically asserted. Examiner disagrees. The specification must provide support for specific combinations of elements contained in the copper alloy. Examiner points out that Applicant has not addressed to scope of enablement rejection of claims 1-31. The specification must enable one of skill to make and use the claimed invention. The specification does not enable one of skill to specifically pick boron or cobalt and at least one other disclosed metal for the alloy components of the copper-based alloy.

35 U.S.C. 112, 2nd

The amendment filed 7/19/04 overcomes the 35 U.S.C. 112, 2nd, rejection of claims 15-18.

Ohashi

Applicant argues Ohashi does not teach or suggest a Cu-based alloy where Cu is the main component. However, Ohashi teaches the collector for both electrodes (anode and cathode) may be a metal foil and is preferably made of a metal which does not easily produce an alloy with lithium such as iron, nickel, cobalt, copper, titanium, vanadium, chromium, manganese or one of their alloys (page 2, lines 26-33; Example 1). Applicant mentions the binder of Ohashi, however, the binder is not part of the collector. The electrode active material layer comprises the binder. Since the claimed invention does not exclude a binder for the active material (carbon or SnO₂), it is unclear how this argument applies to the rejection in view of Ohashi.

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Applicant argues the plating method for the copper alloy foil of the claimed invention improves strength over pure copper. However, unexpected results must distinguish the claimed invention over the prior art. Since Ohashi teaches a copper alloy, this argument is not persuasive.

Takagi

The amendment filed 7/19/04 overcomes the 35 U.S.C. 102(a) rejection of claim 32 in view of Takagi.

Hirai

Applicant argues the conductive foil disclosed by Hirai is made of copper, and therefore, Hirai does not teach or suggest a Cu-based alloy where Cu is the main component. It is unclear how Applicant reaches this conclusion. As stated on page 6 of the final rejection, Hirai teaches a copper alloy foil may be used as the anode current collector. Hirai teaches that copper may be alloyed with materials such as Co, Ni, Sn, Zn, Cr, Mn, Fe, Al, Pb or Ag. Thus, Hirai suggests a copper alloy foil wherein the copper alloy comprises Co and at least one additional material such as Ni, Sn, Zn, Cr, Mn, Fe, Al, Pb or Ag. Hirai does not disclose any specific alloy compositions. However without any showing of critically, the claimed Cu-based alloy foil is considered obvious in view of Hirai.

Applicant argues the plating method for the copper alloy foil of the claimed invention improves strength over pure copper. However, unexpected results must distinguish the claimed invention over the prior art. Since Hirai teaches a copper alloy, this argument is not persuasive.

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Takagi

Applicant argues a copper foil with impurities is not an alloy because 0.1 wt% of impurities is distinguishable from a metal alloy. However, Takagi teaches the current collector is preferably 10-20 μm in thickness (0010) and is formed of a copper alloy foil containing copper and 0.02 wt% or less of at least one of P, Pb, Fe, Sn, Zn, Ni, As, Bi, Ag, S, Cd, Hg, Se, Te, Zr, In, Ga, Ti, Co, Sb or Au based on the weight of the alloy (0005-0008). It is unclear what applicant is attempting to argue since the claimed invention encompasses copper alloys with less than 0.1 wt% of elements other than copper in the copper alloy. For example, claim 2 encompasses a copper alloy comprising 0.0005 wt% of boron and 0.05 wt% of magnesium added to copper to produce the copper alloy foil. It appears applicant is stating that such a combination would not be considered a copper alloy. Applicant is requested to clarify the statement that a copper foil comprising 99.9 wt% of copper is not an alloy.

Applicant argues the plating method for the copper alloy foil of the claimed invention improves strength over pure copper. However, unexpected results must distinguish the claimed invention over the prior art. Since Takagi teaches a copper alloy, this argument is not persuasive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is 571-272-1285. The examiner can normally be reached on Monday-Thursday (9:00-7:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 12, 2004


Patrick Ryan
Senior Patent Examiner
Electronic Business Center 1745